

WORKING DRAFT

General

Name

ID# 17

ProAir Evolution



Technology

High performance industrial breathing apparatus. Positive pressure activated upon first breath.

Stock Number

Not specified

Protection Type

Respiratory

Equipment Category

SCBA, positive pressure activated upon first breath. Can be customized to meet specific needs.

Availability

Commercially available

Current User(s)

- Wackenhut Security Services (SC)
- Lifeguard H2S Safety Services (Tyler, TX)
903-561-7506 (Tel)
- ParaSafe (Overton, TX)
903-895-4462 (Tel)
- Aldrich Chemicals (Milwaukee, WI)
414-273-3850 (Tel)
- Ben and Jerry's
802-752-1380 (Tel)

Manufacturer

Draeger Safety, Inc.
101 Technology Drive
Pittsburgh, PA 15275
Domestic/Foreign

Manufacturer Type

Developer

Draeger Ltd.
Kitty Brewster Industrial Estate
Blyth, Northumberland, United Kingdom NE24 4RG
011-44-167-035-2891 (Tel)

Source

Draeger Brochure
Draeger Safety, Inc.
POC: Julie Malinowski
412-787-8383 (Tel)
800-922-5518 (Tel)
412-787-2207 (Fax)
NIOSH

Certification

Operational Parameters

Chemical Warfare (CW)

All

Agents Protected Against

Biological Warfare (BW)

All

Agents Protected Against

Toxic Industrial Materials

All

(TIMs) Protected Against

WORKING DRAFT

Duration of Protection

30 min, 45 min, and 60 min

Recommended Use(s)

Industrial environments

Physical Parameters**Sizes Available**

One size fits all masks

Weight

Depends on cylinder selected. All under 31 lb.

Package Size and Volume

24.5 in x 12.5 in x 6.4 in

Power Requirements

None required

Material Type

Carbon composite backplate is light and maintains its ergonomic shape throughout the life of the product; nylon harness and carbon composite backplate.

Construction Type

Direct cylinder connection to pressure reducer removes dangers of exposed and unrestricted high pressure hoses

Color

Black

Logistical Parameters**Ease of Use**

Universal cylinder strap accommodates all cylinder configurations; easy to use after initial training; and 90 % peripheral vision.

Consumables

Air for cylinders

Maintenance Requirements

Yearly: flow and static test, replace ball nose o-ring, check medium pressure. Monthly: check cylinder pressure. After use: visual inspection, functional and leak test, and charge cylinder to correct pressure.

Shelf Life

Lifetime for aluminum cylinders and 15 yr for composite cylinders

Transportability

Easily transported

Operational Limitations

Not specified

Environmental Conditions

Designed to function under extremely harsh conditions; -32 °F to 160 °F

Unit Cost

\$1K to \$2K depending on unit and options

Maintenance Cost

Each Year: \$1.65 for ball nose o-ring

Warranty

5 yr bumper to bumper; 15 yr on the first stage reducer

Don/DoFF Information

None required

Use/Reuse

Reusable

Launderability

Clean/disinfect mask and Lung Demand valve with AirKem 33. Harness can be laundered. No limit to either.

Accessories

Flashing gauge, IPASS, buddy breather, ChargAir, comfort pad, quick release are optional; pressure reducer guaranteed 100 % fail-safe. No need for redundant or second pressure reducer.

Special Requirements**Training Requirements**

3 h of training required

Training Available

Operational Level I and Maintenance Level II

Manuals Available

Information for use and service manual

Surveillance Testing

See maintenance requirements

Requirements**Support Equipment**

Streamlined nonaspirating whistle integrated into gauge assembly.

Whistle sounds in excess of 90 dBA upon activation

Testing Information

Fit Test Reports and Field of View

Applicable Regulations

NIOSH

WORKING DRAFT

Health Hazards

Not applicable

Communications Interface

Radio interface and voice amplification

Capability

EOD Compatibility

Not specified

WORKING DRAFT

General

Name

ID# 18

Panorama Nova Full Facepiece



Technology

Stock Number

Protection Type

Equipment Category

Availability

Current User(s)

Manufacturer

Manufacturer Type

Developer

Source

Certification

Operational Parameters

Chemical Warfare (CW)

Agents Protected Against

Biological Warfare (BW)

Agents Protected Against

Toxic Industrial Materials

(TIMs) Protected Against

Duration of Protection

Recommended Use(s)

Physical Parameters

Sizes Available

Weight

Package Size and Volume

Power Requirements

Material Type

Negative pressure full-face mask

EPDM—R51525

Silicone—R51535

Respiratory

Respirator and negative pressure

Commercially available

Westinghouse Savannah River Site

Draeger Safety, Inc.

101 Technology Drive

Pittsburgh, PA 15275

Domestic/Foreign

Draeger Sicherheitstechnik GmbH

Revalstrabe 1

Germany 23560

011-49-451-882-2000 (Tel)

Draeger Safety, Inc.

POC: Julie Malinowski

412-787-8383 (Tel)

800-922-5518 (Tel)

412-787-2207 (Fax)

NIOSH, NFPA

Nerve, blister and blood agents: GA, GB, GD, VX, HD, and L

With P100 cartridges, becomes 99.97 % efficient

Various

Dependent on filter used

Not specified

One size fits all (smallest female to largest male)

1.3 lb (21 oz)

1 ft³

None

EPDM (ethylene propylene dimonomer) or silicone; Plexiglas lens;
stainless steel speech diaphragm

WORKING DRAFT

Construction Type

Triple sealing edge assures firm and comfortable fit

Color

Black for EPDM, yellow for silicone

Logistical Parameters

Ease of Use

Very easy to use. Range of movement maintained, and maximum vision maintained.

Consumables

Wide range of NIOSH-approved single screw-in cartridges

Maintenance Requirements

Replace valves every 2 yr. Wash and disinfect as required.

Shelf Life

Not specified

Transportability

Very transportable

Operational Limitations

Not specified

Environmental Conditions

Designed to function under extremely harsh conditions

Unit Cost

\$153 to \$192

Maintenance Cost

\$2/yr

Warranty

1 yr

Don/Doff Information

None required

Use/Reuse

Reusable

Launderability

Recommend use of AirKem 33A for washing/disinfecting with no limitations

Accessories

Spectacle kits, easy donning headstraps, communication devices are optional accessories

Special Requirements

Training Requirements

Less than 5 min

Training Available

Maintenance/testing training available

Manuals Available

User manual

Surveillance Testing

Not specified

Requirements

Support Equipment

None

Testing Information

NIOSH test data is available

Applicable Regulations

OSHA

Health Hazards

None

Communications Interface

BaComm Voice Amplification Unit (attaches to mask, no tools required, and radio connections also available)

Capability

EOD Compatibility

Not specified

WORKING DRAFT

General

Name

ID# 19

Paret Defend Air



Technology

Stock Number

Protection Type

Equipment Category

Availability

Current User(s)

Manufacturer

Manufacturer Type

Developer

Source

Certification

Operational Parameters

Chemical Warfare (CW)

Agents Protected Against

Biological Warfare (BW)

Agents Protected Against

Toxic Industrial Materials

(TIMs) Protected Against

Duration of Protection

Recommended Use(s)

Physical Parameters

Sizes Available

Weight

Package Size and Volume

Power Requirements

Material Type

Escape hood, not powered

R54797—Paret DE

R51906—Wall Mount Bracket

Respiratory

Escape hood and not powered

Commercially available

Not specified

Draeger Safety, Inc.

101 Technology Drive

Pittsburgh, PA 15275

Domestic/Foreign

Draeger Sicherheitstechnik GmbH

Revalstrabe 1

Germany 23560

011-49-451-882-2000 (Tel)

Draeger Safety, Inc.

POC: Julie Malinowski

412-787-8383 (Tel)

800-922-5518 (Tel)

412-787-2207 (Fax)

Not specified

Nerve and blister

Not specified; P100 filter is attached which is 99.97 % efficient

Arsine, chlorine, hydrogen cyanide, and phosgene

20 min of vapor protection and 20 min of permeation resistance

First responders, law enforcement or emergency response personnel

One size fits all (smallest female to largest male)

30 oz (packaged in hard plastic case) and 1.3 lb (22 oz) unpackaged

7.5 in x 5.3 in x 3.1 in (l x h x w) packaged

None

Coated Tyvek; flame retardant self extinguishing PVC; lens treated with anti-mist agent

WORKING DRAFT

Construction Type

Sealed seams (neckseal to provide 1000 PF)

Color

Gray

Logistical Parameters

Ease of Use

Very easy to use. Range of movement maintained, 80 % of natural field of vision retained.

Consumables

None

Maintenance Requirements

Replace valves every 2 yr. Wash and disinfect as required.

Shelf Life

5 yr in original packaging. Storage temperature not to exceed 158 °F.

Transportability

Very transportable

Operational Limitations

No restrictions

Environmental Conditions

Designed to function under extremely harsh conditions

Unit Cost

\$125

Maintenance Cost

None

Warranty

1 yr

Don/Doff Information

Less than 10 s

Use/Reuse

Disposable

Launderability

None

Accessories

Wall mount bracket is available

Special Requirements

Training Requirements

Less than 5 min

Training Available

Not specified

Manuals Available

User manual

Surveillance Testing

Not specified

Requirements

Support Equipment

Not specified

Testing Information

Extensive testing such as shock and vibration, package impact tests, visor fogging tests, and low temperature tests (according to confidential draft)

Applicable Regulations

Not specified

Health Hazards

Disposal of used equipment varies based on local regulations

Communications Interface

Not necessary since there are no mouthbits or nose clips. With an integrated half mask, the wearer can speak normally.

Capability

EOD Compatibility

Not specified

WORKING DRAFT

General

Name	Kareta M Mask
ID# 20	Picture Not Available
Technology	Dual eyepiece mask
Stock Number	Not specified
Protection Type	Respiratory
Equipment Category	Respirator and dual eyepiece mask
Availability	Commercially available
Current User(s)	Not specified
Manufacturer	Draeger Safety, Inc. 101 Technology Drive Pittsburgh, PA 15275
Manufacturer Type	Domestic/Foreign
Developer	Draeger Sicherheitstechnik GmbH Revalstrabe 1 Germany 23560 011-49-451-882-2000 (Tel)
Source	Draeger Brochure Draeger Safety, Inc. POC: Julie Malinowski 412-787-8383 (Tel) 800-922-5518 (Tel) 412-787-2207 (Fax)
Certification	NIOSH

Operational Parameters

Chemical Warfare (CW)	Not specified
Agents Protected Against	
Biological Warfare (BW)	Not specified
Agents Protected Against	
Toxic Industrial Materials (TIMs) Protected Against	Not specified
Duration of Protection	Not specified
Recommended Use(s)	First responders

Physical Parameters

Sizes Available	Not specified
Weight	Not specified
Package Size and Volume	Not specified
Power Requirements	None
Material Type	Not specified
Construction Type	Not specified
Color	Black

Logistical Parameters

Ease of Use	Not specified
Consumables	Accepts all Draeger NIOSH-approved cartridges
Maintenance Requirements	Not specified

WORKING DRAFT

Shelf Life	Not specified
Transportability	Not specified
Operational Limitations	Not specified
Environmental Conditions	Not specified
Unit Cost	Not specified
Maintenance Cost	Not specified
Warranty	Not specified
Don/Doff Information	Not specified
Use/Reuse	Not specified
Launderability	Not specified
Accessories	Drinking device connection included
<u>Special Requirements</u>	
Training Requirements	Not specified
Training Available	Not specified
Manuals Available	Not specified
Surveillance Testing Requirements	Not specified
Support Equipment	Not specified
Testing Information	Not specified
Applicable Regulations	NIOSH
Health Hazards	Not specified
Communications Interface Capability	MegaComm Voice Amplification Unit (attaches to mask, no tools required, and radio connections also available)
EOD Compatibility	Not specified

WORKING DRAFT

General

Name

Duram Emergency Escape Respirator

ID# 21

Picture Not Available

Technology

The emergency escape respirator provides short-term (5 min to 15 min) respiratory protection against chemical and/or biological warfare agents and common industrial chemicals through its outstanding filtering and fit properties. This product provides integrated protection.

Stock Number

DM-54C-600V-YE/BE

Protection Type

Respirator

Equipment Category

Emergency escape respirator for use in the event of a toxic release of chemical or biological agents

Availability

Average shipment 4 wk

Current User(s)

Los Angeles City HAZMAT Department L.A. County HAZMAT Department, U.S. Marines HRT Team, Federal Bureau of Investigation, Georgia Fire Department, St. Louis Fire Department, Conoco Oil Company, McDonald Douglas, and Emerson Electric.

Manufacturer

Duram Rubber Products
Kibbutz Ramat Hakovesh, Israel, 44930
U.S. Distributor:
POC: Herbert D. Rassbach
Wayne, PA 19087
610-964-8555 (Tel)
610-975-9185 (Fax)
hdrassbach@hdrgroup.com
POC: John J. Schramko
Westminster, MA 01473
978-874-0214 (Tel)
978-876-5878 (Fax)
jschr40499@aol.com

Manufacturer Type

Foreign

Developer

Duram Rubber Products, Kibbutz Ramat Hakovesh, Israel, 44930

Source

WMD Protective Systems, Inc. were invited to present the Duram Emergency Escape Mask to both the Personal Protective and Operational Equipment, and Medical sub groups of the recently convened Marshall Convention, (Standardized Weapons of Mass Destruction Response Force Equipment and interoperability) November 2-4, 1999.

Certification

Recognized U.S. Standards do not exist for negative pressure air purifying escape respirators. Testing of the Duram Emergency Escape Respiratory has been performed at Edgewood Research Development and Engineering Center, U.S. Army Chemical and Biological Defense Command.

Operational Parameters

Chemical Warfare (CW)

Agents Protected Against

Short-term protection against volatile agents such as cyanogen chloride (CK), and semi-volatile agents such as mustard and the G-agents. Concentration (mg/m^3), break through time (min), flow rate (L/min). Cyanogen chloride (CK) 250 mg/m^3 , 15 min, 30 L/min. Dimethylmethylft phosphonate (DMMP) 1000 mg/m^3 , 5 min, 30 L/min.

Biological Warfare (BW)

Agents Protected Against

The Duram Emergency Escape Respirator provides protection against biological agents as evidenced by Oil and NaCl (salt) aerosol tests.

WORKING DRAFT

Toxic Industrial Materials (TIMs) Protected Against

Provides protection against vapors with a boiling point higher than 65 °C, certain inorganic gases and vapors, and other acidic gases and vapors. High Hazard TIMs: Carbon tetra-chloride (CCl₄), hydrogen cyanide (HCN), chlorine (Cl₂), hydrogen sulphide (H₂S), sulfur dioxide (SO₂), and ammonia (NH₃). Tested against a wide range of police chemical weapons including: Pyro CS, Pyro CN, Smoke, OC spray, OC foam, CS spray, CN spray, ClearOut Gas (OC+CN), CS dust and CN dust. These tests were conducted in fully enclosed or semi-enclosed areas with chemical concentrations many times greater than normal. The spray and foam tests were performed at close range (3 ft to 4 ft) using long bursts (2 s to 4 s) directly on the visor and filter sections of the respirator.

Duration of Protection

The Duram Emergency Escape Respirator is a single use product for short duration exposure to chemical/biological warfare agents, toxic industrial materials and police chemical weapons.

Recommended Use(s)

The Duram Emergency Escape Respirator is designed to provide emergency escape respiratory protection for egress from a incident involving chemical /biological warfare agents, toxic industrial materials and police chemical suppression agents. The suggested uses are for individuals exposed to these environments. The product is appropriate for both emergency personnel, which would include Fire (HAZMAT), Structural Fire Fighters, Police, EMT's, Hospital personnel, and individuals exposed to the hazards described above in the event of a terrorist incident involving Weapons of Mass Destruction (WMD).

Physical Parameters

Sizes Available

One size fits all. This provides for ease of issuing and low inventory costs.

Weight

110 g

Package Size and Volume

18 cm x 14 cm x 1.5 cm

Power Requirements

Not applicable

Material Type

Hood is constructed of polychloroprene, visor is constructed of polyimide (DuPont Kapton 100 HN), filter is a multiple construction consisting of electrostatic particulate filter with activated charcoal filter layers.

Construction Type

Hood and visor are heat-sealed. Filter assembly is installed with adhesives. Exhalation valve is a mechanical seal.

Color

Yellow

Logistical Parameters

Ease of Use

The Duram Emergency Escape Respirator is a single use one size fits all mask. In over 125 wear tests the respirator was easily and quickly donned by expert and inexperienced users. The respirator can be used by individuals with long hair and facial hair as well as eyeglass wearers.

Consumables

Not applicable. The respirator is a single use disposable product.

Maintenance Requirements

Not applicable

Shelf Life

5 yr from manufacturing date

Transportability

A packaged mask can be carried in the pocket of a coat or worn on a belt

Operational Limitations

The Duram Emergency Escape Respirator visor received the highest UL-94 flammability rating; V-O. The Duram Emergency Escape Respirator hood passed the rigorous requirements of NFPA 701, 1972 edition.

Environmental Conditions

Store in an environment protected from extreme heat and humidity. It is supplied in an airtight vacuum package. In a test conducted at Edgewood Arsenal, the respirators were stored for a 12 wk period at 71 °C.

WORKING DRAFT

Unit Cost	Inspection of the masks after the test duration found the packages intact and the product useable for its intended purpose.
Maintenance Cost	\$70 to \$90 per unit depending on quantity
Warranty	Not applicable.
Don/Doff Information	In general the respirator is warranted to be free from defects in material and workmanship and effective for a period of 5 yr
Use/Reuse	No assistance is required to don or doff the respirator
Laundryability	Not applicable, the respirator is a single use devise
Accessories	Not applicable, the respirator is a single use devise
<u>Special Requirements</u>	
Training Requirements	The Duram Emergency Escape Respirator is a simple devise which needs no training to use
Training Available	Not applicable
Manuals Available	Use instructions are printed on the vacuum package
Surveillance Testing Requirements	Simply insure that the vacuum package is intact
Support Equipment	Not applicable
Testing Information	Protection factors: the Duram Emergency Escape Respirator has been tested for the qualification of fit factors from the 5 % army female to the 95 % army male by Edgewood Research Development and Engineering Center, U.S. Army Chemical and Biological Defense Command. This achieved a protection factor of 549 compared to the U.S. Army Expedient Hood with a Protection factor of 416.
Applicable Regulations	There are no consensus standards for Air Purifying Emergency Escape Respirators. NIOSH does not have a category for nonpowered air purifying escape masks or negative pressure masks that employ a neck seal.
Health Hazards	None
Communications Interface Capability	Not applicable. The Duram Emergency Escape Respirator offers excellent verbal communication ability especially when compared to tight fitting air purifying respirators.
EOD Compatibility	Not specified

WORKING DRAFT

General

Name

ID# 22

PP mask with ABP3/US canister



Technology

Stock Number

Protection Type

Equipment Category

Availability

Current User(s)

Manufacturer

Manufacturer Type

Developer

Source

Certification

Operational Parameters

Chemical Warfare (CW)

Agents Protected Against

Biological Warfare (BW)

Agents Protected Against

Toxic Industrial Materials (TIMs) Protected Against

Duration of Protection

Recommended Use(s)

Positive Pressure in PAPR System; could be used as negative pressure

Without canister:

Size: XL—105 93 942

Size: L—105 93 944

Size: M—105 93 945

Size: S—105 93 946

Respiratory

Mask/positive pressure in PAPR system. Mask/negative pressure stand alone.

Commercially available

French Army (gas mask), French Civil Defense, Hungarian Army (gas mask), Polish Army (gas mask)

GIAT Industries 13, route de la Minière

78034 Versailles Cedex, France

33 (1) 30 97 39 91 (Tel)

33 (1) 30 97 39 67 (Fax)

<http://www.giat-industries.fr>

Foreign

GIAT Industries

GIAT Industries

North American Distributor:

The CENTECH GROUP, Inc

4600 North Fairfax Drive, Suite 400

Arlington, VA 22203

800-938-1026 (Tel)

703-525-2349 (Fax)

www.centechgroup.com

Positive pressure: NIOSH-approved (French version EN approved)

Negative pressure: EN approved in French version

All NATO CW threats at NATO standard

Yes, Hepa P3 canister in accordance with NATO threat

Yes—NIOSH standard for NH₃, CL₂, CCl₄, HCN, ammonia, and chlorine

No—carbon monoxide (CO)

Liquid proof 24 h against G and H agents (10g/m²)

Tactical operation and crisis management (8 h)

WORKING DRAFT

Physical Parameters

Sizes Available	4 sizes: S, M, L, and XL
Weight	1.2 lb (mask only) and 1.4 lb (with canister)
Package Size and Volume	11 in x 9 in x 7 in (mask only)
Power Requirements	None
Material Type	The mask is constructed of polyurethane material (impermeable); canister (plastic case, active carbon, and paper)
Construction Type	Full face respirator
Color	Black

Logistical Parameters

Ease of Use	Compatible with a wide range of personal protective equipment
Consumables	ABP3/US canister
Maintenance Requirements	Exchange the canister every 5 yr. Cleaning and checking of expiration valve every 5 yr in PAPR. Cleaning and checking of expiration valve every 1 yr in negative pressure use.
Shelf Life	5 yr without maintenance
Transportability	No restriction known
Operational Limitations	Military standard
Environmental Conditions	Military standard
Unit Cost	On request
Maintenance Cost	Low cost
Warranty	1 yr
Don/Doff Information	None required
Use/Reuse	Decontamination and or sanitary cleaning
Laundryability	Laundered using cleaning kit. Decontamination not applicable by boiling.
Accessories	Optical device, harness, and transportation bag

Special Requirements

Training Requirements	Less than 1 h of training is required
Training Available	On request
Manuals Available	Illustrated user manual
Surveillance Testing Requirements	Fit test once a year
Support Equipment	Standard means
Testing Information	EN certificate number: NIOSH certificate: TC-23C-2041; French Army Test Report for mask
Applicable Regulations	NIOSH
Health Hazards	Not Known
Communications Interface Capability	Not specified
EOD Compatibility	Compatible with GIAT catalog suits (TOMPS, SWAT, and Level C)

WORKING DRAFT

General

Name

ID# 23

PAPR system



Technology

Stock Number

Protection Type

Equipment Category

Availability

Current User(s)

Manufacturer

Manufacturer Type

Developer

Source

PAPR system with PP (positive pressure) mask, ABP3/US canister, CASU (blower)

Kit of 4 pieces:

Size: L and M—106 16 414

Size: S and XL—106 22 737

Respiratory

PAPR/positive pressure

Commercially available

French Army (gas mask), French Civil Defense, Hungarian Army (gas mask), Polish Army (gas mask)

GIAT Industries 13, route de la Minière

78034 Versailles Cedex, France

33 (1) 30 97 39 91 (Tel)

33 (1) 30 97 39 67 (Fax)

<http://www.giat-industries.fr>

Foreign

GIAT Industries

GIAT Industries

North American Distributor:

The CENTECH GROUP, Inc

4600 North Fairfax Drive, Suite 400

Arlington, VA 22203

800-938-1026 (Tel)

703-525-2349 (Fax)

www.centechgroup.com

NIOSH-approved (French version EN approved)

Certification

Operational Parameters

Chemical Warfare (CW)

Agents Protected Against

Biological Warfare (BW)

Agents Protected Against

Toxic Industrial Materials

(TIMs) Protected Against

Duration of Protection

Recommended Use(s)

All NATO CW threats at NATO standard

Yes, HEPA P3 canister on accordance with NATO threat

Yes—NIOSH standard for NH₃, CL₂, CCl₄, HCN, ammonia, and chlorine

No—carbon monoxide (CO)

Liquid proof, 24 h against G and H agents (10g/m²)

Tactical operation and crisis management (8 h)

WORKING DRAFT

Physical Parameters

Sizes Available

4 sizes: S, M, L, and XL

Weight

55 lb for kit for 4 responders

6.6 kg (1 set without package)

Package Size and Volume

Kit for 4 responders: 18 in x 31 in x 15.7 in

Power Requirements

One lithium battery for use and one as a spare part in the package

Material Type

The mask is constructed of polyurethane material (impermeable); canister (plastic case, active carbon, and paper); blower (plastic case, and electric engine)

Construction Type

Full face respirator

Color

Black

Logistical Parameters

Ease of Use

Compatible with a wide range of personal protective equipment

Consumables

ABP3/US canister; lithium battery

Maintenance Requirements

Exchange the canister every 5 yr; cleaning and checking of expiration valve every 5 yr; exchange gastight female threaded connector every 5 yr; exchange Lithium battery every 10 yr

Shelf Life

5 yr without maintenance

Transportability

No restriction known

Operational Limitations

Military standard

Environmental Conditions

Military standard

Unit Cost

On request

Maintenance Cost

Low cost

Warranty

1 yr

Don/Doff Information

None required

Use/Reuse

Decontamination and or sanitary cleaning

Launderability

Laundered using cleaning kit. Decontamination not applicable by boiling.

Accessories

Optical device

Special Requirements

Training Requirements

Less than 1 h of training is required

Training Available

On request

Manuals Available

Illustrated user manual

Surveillance Testing

Fit test once a year

Requirements

Support Equipment

Standard means

Testing Information

EN certificate number: NIOSH certificate: TC-23C-2041; French Army Test Report for mask

Applicable Regulations

NIOSH

Health Hazards

Not Known

Communications Interface

Not specified

Capability

EOD Compatibility

Compatible with GIAT catalog suits (TOMPS, SWAT, and Level C)

WORKING DRAFT

General

Name

ID# 24

EVATOX Adult Escape Hood US



Technology

Escape hood powered with canister type A1B1E1K1P3

Stock Number

106 03 922

Protection Type

Respiratory

Equipment Category

Escape hood powered

Availability

Commercially available

Current User(s)

French civil defense, French Fire Brigades

Manufacturer

GIAT Industries 13, route de la Minière

78034 Versailles Cedex, France

33 (1) 30 97 39 91 (Tel)

33 (1) 30 97 39 67 (Fax)

<http://www.giat-industries.fr>

Foreign

Manufacturer Type

GIAT Industries

Developer

GIAT Industries

Source

North American Distributor:

The CENTECH GROUP, Inc

4600 North Fairfax Drive, Suite 400

Arlington, VA 22203

800-938-1026 (Tel)

703-525-2349 (Fax)

www.centechgroup.com

EN in progress

Certification

Operational Parameters

Chemical Warfare (CW)

No

Agents Protected Against

Biological Warfare (BW)

Yes. Hepa P3 canister on accordance with NATO threat.

Agents Protected Against

Toxic Industrial Materials

Organic vapors are covered with GIAT cartridges, no carbon monoxide.

(TIMs) Protected Against

EN standard covering ammonia and organic vapors.

Duration of Protection

> 4 h of wearing (battery)

Recommended Use(s)

Escape for adults

Physical Parameters

Sizes Available

1 size fits all

Weight

36 oz

Package Size and Volume

24 in x 14 in x 6 in

Power Requirements

2 x 1.5 V batteries provided

WORKING DRAFT

Material Type	Hood: PE (polyethylene), PU (polyurea) , PVC; canister (aluminum, active carbon, and paper); blower (electric engine, plastic, and alkaline batteries)
Construction Type	Powered hood (built in blower) 2 cfm
Color	Yellow
<u>Logistical Parameters</u>	
Ease of Use	Easy donning compatible with standard spectacles and with beards
Consumables	None
Maintenance Requirements	Change battery and canister every 3 yr
Shelf Life	9 yr (with maintenance every 3 yr)
Transportability	No restriction known
Operational Limitations	Rugged for emergency use
Environmental Conditions	As canistered equipment: minimum oxygen 17 % and no CO presence
Unit Cost	On request
Maintenance Cost	Low cost
Warranty	1 yr
Don/Doff Information	Very easy, no assistance
Use/Reuse	Single use
Laundryability	No decon, disposable after exposure
Accessories	None
<u>Special Requirements</u>	
Training Requirements	2 h for rescuers
Training Available	On request
Manuals Available	Supplied with equipment
Surveillance Testing Requirements	Every 3 yr change battery and canisters
Support Equipment	Standard means
Testing Information	Manufacturer test
Applicable Regulations	F0531 105 21 085
Health Hazards	Not Known
Communications Interface Capability	Not specified
EOD Compatibility	With every suit

WORKING DRAFT

General

Name

ID# 25

M40 Series Gas Mask



Technology

Respirator/canister. Component(s): canister, canister mount, drinking device, exhalation valve, eyepiece(s), facepiece, head harness, inhalation valve, noseclip, and facepiece of molded silicone rubber. Two eyepieces are made of CR39 and held in place by metal eyerings. The internal noseclip is made of silicone rubber. Canister is attached directly to the mask. Hood composed of butyl-coated nylon and EPDM rubber for use in a chemically contaminated environment.

Stock Number

Small: 4240-01-258-0061

Medium: 4240-01-258-0062

Large: 4240-01-258-0063

Protection Type

Respiratory

Equipment Category

Respirator/canister

Availability

Note: To order Hycar M40 series masks, contact MSA International (412-967-3483) Military

Current User(s)

Infantry and civilian surety workers. Used by U.S. Army and Marine Corps. Also used in a special purpose mode by EOD.

Manufacturer

ILC Dover, Inc.

P.O. Box 266

Harrington Road

Frederica, DE 19946

302-335-3911 (Tel)

302-335-0762 (Fax)

Mine Safety Appliances Co.

Defense Products Department

P.O. Box 428

Pittsburgh, PA 15230

412-733-9270 (Tel)

412-733-8573 (Fax)

Manufacturer Type

Domestic

Developer

U.S. Army Chemical Research, Development, and Engineering Center
Edgewood Area

Aberdeen Proving Ground, MD 21010-5423

Source

Worldwide NBC Mask Handbook

Certification

Canister Mount—NATO Standard

Operational Parameters

Chemical Warfare (CW)

Provides protection of the eyes and respiratory system against chemical agents. Worn with a hood in chemically contaminated environment.

Agents Protected Against

Biological Warfare (BW)

Provides protection of the eyes and respiratory system against biological agents

Agents Protected Against

WORKING DRAFT

Toxic Industrial Materials (TIMs) Protected Against Duration of Protection Recommended Use(s)

Not intended to provide protection against carbon monoxide or ammonia

Greater than 330000 mg-min/m³ for nerve agents and mustard
Infantry and civilian surety workers. Also used in a special purpose mode by EOD.

Physical Parameters

Sizes Available

Small, medium, and large

Weight

28 oz (facepiece and canister)

10 oz (canister)

18 oz (facepiece)

Not specified

Package Size and Volume

Not specified

Power Requirements

Material Type

Facepiece of molded silicone rubber. Two eyepieces are made of CR39 and held in place by metal eyerings. The internal nosecup is made of silicone rubber. Canister is attached directly to the mask. Hood composed of butyl-coated nylon and EPDM rubber for use in a chemically contaminated environment.

Construction Type

Canister is attached directly to the mask

Color

Black

Logistical Parameters

Ease of Use

Mask has six-point adjustable head harness. Several preplanned improvements to be incorporated into the series design including improved vision correction, ballistic and laser eye protection, a quick-doff hood/second skin, interchangeable microphone system, voice amplification unit, and canister interoperability system.

C2 canister or any other NATO standard thread canister

Consumables

Not specified

Maintenance Requirements

Not determined

Shelf Life

Not specified

Transportability

Not specified

Operational Limitations

Not specified

Environmental Conditions

\$150

Unit Cost

Not specified

Maintenance Cost

Not specified

Warranty

Less than 9 s

Don/Doff Information

Not specified

Use/Reuse

Not specified

Launderability

Includes carrier, hood, 2 clear outserts, 2 tinted outserts, and second skin

Accessories

Special Requirements

Training Requirements

Not specified

Training Available

Not specified

Manuals Available

Not specified

Surveillance Testing

Not specified

Requirements

Support Equipment

Hood to be used in chemically contaminated environment

Testing Information

Meets AR 70-71 requirements for decontamination. M258A1 Skin Decon Kit is stored in the carrier. M258A1 is being replaced with M291 and will not be stored in the carrier.

WORKING DRAFT

Applicable Regulations

Not specified

Health Hazards

Not specified

Communications Interface

Accessories include the ESP Communications System. Voicemitters are located on the front and side of the mask.

Capability

EOD Compatibility

Can be used in a special purpose mode by EOD

WORKING DRAFT

General

Name

ID# 26

M42 Series Gas Mask



Technology

Respirator/canister. Component(s): canister, canister mount, drinking device, exhalation valve, eyepiece(s), facepiece, head harness, inhalation valve, and nose cup. Facepiece of molded silicone rubber. Two eyepieces are made of CR39 and held in place by metal eyerings. The internal nose cup is made of silicone rubber. Canister is attached directly to the mask. Hood composed of butyl-coated nylon and EPDM rubber for use in a chemically contaminated environment.

Stock Number

Small: 4240-01-258-0064

Medium: 4240-01-258-0065

Large: 4240-01-258-0066

Protection Type

Respiratory

Equipment Category

Respirator/canister

Availability

Military

Current User(s)

Military combat vehicle crews (U.S. Army and Marine Corps). Also used in a special purpose mode by EOD.

Manufacturer

ILC Dover, Inc.

P.O. Box 266

Harrington Road

Frederica, DE 19946

302-335-3911 (Tel)

302-335-0762 (Fax)

Mine Safety Appliances Co.

Defense Products Department

P.O. Box 428

Pittsburgh, PA 15230

412-733-9270 (Tel)

412-733-8573 (Fax)

Domestic

Manufacturer Type

Developer

U.S. Army Chemical Research, Development, and Engineering Center
Edgewood Area

Aberdeen Proving Ground, MD 21010-5423

Worldwide NBC Mask Handbook

Canister Mount—NATO Standard

Source

Certification

Operational Parameters

Chemical Warfare (CW)

Provides protection of the eyes and respiratory system against chemical agents. Worn with a hood in chemically contaminated environment.

Agents Protected Against

Biological Warfare (BW)

Provides protection of the eyes and respiratory system against biological agents

Agents Protected Against

WORKING DRAFT

Toxic Industrial Materials (TIMs) Protected Against	Not intended to provide protection against carbon monoxide or ammonia
Duration of Protection	Greater than 330000 mg-min/m ³ for nerve agents and mustard
Recommended Use(s)	Combat vehicle crews. Also used in a special purpose mode by EOD.
<u>Physical Parameters</u>	
Sizes Available	Small, medium, and large
Weight	36 oz (facepiece and canister) 10 oz (canister) 26 oz (facepiece)
Package Size and Volume	Not specified
Power Requirements	Not specified
Material Type	Facepiece of molded silicone rubber. Two eyepieces are made of CR39 and held in place by metal eyerings. The internal nosecup is made of silicone rubber. Canister is attached directly to the mask. Hood composed of butyl-coated nylon and EPDM rubber for use in a chemically contaminated environment.
Construction Type	Canister attached to the mask via a corrugated hose, and the canister is housed in a specially designed canister carrier
Color	Black
<u>Logistical Parameters</u>	
Ease of Use	Mask has six-point adjustable head harness. Several preplanned improvements to be incorporated into the series design including improved vision correction, ballistic and laser eye protection, a quick-doff hood/second skin, interchangeable microphone system, voice amplification unit, and canister interoperability system.
Consumables	C2 canister or any other NATO standard thread canister
Maintenance Requirements	Not specified
Shelf Life	Not determined
Transportability	Not specified
Operational Limitations	Not specified
Environmental Conditions	Not specified
Unit Cost	\$250
Maintenance Cost	Not specified
Warranty	Not specified
Don/Doff Information	Less than 9 s
Use/Reuse	Not specified
Launderability	Not specified
Accessories	Includes carrier, hood assembly, corrugated canister hose assembly, 2 clear and 2 tinted outserts, and a second skin
<u>Special Requirements</u>	
Training Requirements	Not specified
Training Available	Not specified
Manuals Available	Not specified
Surveillance Testing Requirements	Not specified
Support Equipment	Hood to be used in chemically contaminated environment

WORKING DRAFT

Testing Information

Meets AR 70–71 requirements for decontamination. M258A1 Skin Decon Kit is stored in the carrier. M258A1 is being replaced with M291 and will not be stored in the carrier.

Applicable Regulations

Not specified

Health Hazards

Not specified

Communications Interface

Accessories include the ESP Communications System. Voicemitters are located on the front and side of the mask.

Capability**EOD Compatibility**

Can be used in a special purpose mode by EOD

WORKING DRAFT

General

Name

ID# 27

ARAP/C and ARAP/E Airline Respirators



Technology

ARAP/C and ARAP/Escape provide the maximum respiratory protection in hazardous atmospheres. Designed to provide breathing air where ambient air may be irritating. The ARAP line is compatible with the Viking SCBA. It can be configured for use in airline and HAZMAT applications. ARAP/ESCAPE includes a 5 min, 10 min, or 15 min emergency escape cylinder that can be activated with a simple rotation of the cylinder valve. ARAP/ESCAPE can be worn in atmospheres that are considered immediately dangerous to life or health (IDLH).

Stock Number

Complete ARAP assembly: 707.135.00

Protection Type

Respiratory

Equipment Category

Respirator, compatible with SCBA or can be configured for use in airline applications

Availability

Commercial

Current User(s)

Not specified

Manufacturer

International Safety Instruments
922 Hurricane Shoals Road
Lawrenceville, GA 30243
770-962-2552 (Tel)
770-963-2797 (Fax)
Mary McDougald, Marketing Coordinator
Customer Service: 888-ISI-SAFE (Tel)
Domestic and International
ISI
www.intsafety.com
Mary McDougald, Marketing Coordinator
Customer Service: 888-ISI-SAFE (Tel)
NIOSH-approved Type C respirators

Manufacturer Type

Developer

Source

Certification

Operational Parameters

Chemical Warfare (CW)

Not specified

Agents Protected Against

Biological Warfare (BW)

Not specified

Agents Protected Against

Toxic Industrial Materials (TIMs) Protected Against

ARAP/ESCAPE can be worn in atmospheres that are considered IDLH

Duration of Protection

5 min, 10 min, or 15 min emergency escape cylinder

Recommended Use(s)

Military, government, confined space, mining, construction, chemical manufacturing, oil and petroleum processing, aviation and aerospace, and transportation

WORKING DRAFT

Physical Parameters

Sizes Available	Facemask—small, medium, and large
Weight	Lightweight and comfortable
Package Size and Volume	Not specified
Power Requirements	Not specified
Material Type	Kevlar harness options. AirSwitch™ facemask made from silicone or neoprene.
Construction Type	Reverted-edge ensures proper seal. Standard nose cup eliminates fogging.
Color	Not specified

Logistical Parameters

Ease of Use	Simple design makes standard service and repair easy for end-user. No bulky regulator on waistbelt.
Consumables	Not specified
Maintenance Requirements	Simple, low-cost maintenance
Shelf Life	Not specified
Transportability	Not specified
Operational Limitations	Not specified
Environmental Conditions	All common outdoor weather conditions
Unit Cost	Not specified
Maintenance Cost	Not specified
Warranty	Not specified
Don/Doff Information	Manual
Use/Reuse	Not specified
Launderability	Harnesses easily removed and cleaned. Facemask is fully submersible.
Accessories	Pigtail assembly, fittings, and optional welding mask attachment

Special Requirements

Training Requirements	Not specified
Training Available	Not specified
Manuals Available	Yes
Surveillance Testing Requirements	Not specified
Support Equipment	Supply hose
Testing Information	Not specified
Applicable Regulations	Not specified
Health Hazards	Not specified
Communications Interface Capability	Communications 1 radio interface fits any ISI Airswitch Facemask and is adaptable to all radio types
EOD Compatibility	No

WORKING DRAFT

General

Name

Viking Digital SCBA

ID# 28



Technology

SCBA; the Viking Digital provides maximum respiratory protection in IDLH atmospheres. It was designed with firefighters in mind, however it has applications in police and HAZMAT instances. It can be ordered with a 30 min, 45 min, or 60 min cylinder. This SCBA has many unique features including an in-mask light display providing the following information: cylinder pressure status, acknowledgement of radio transmission, and activation of the “end of service alarm.” For police applications, the lights inside the inner nosecup make the Viking Digital very stealth. Radio interface with an in-mask microphone and a silent, low pressure lighted alarm that only the user can observe, provides the needed information without any noise. Sanitizing the facemask is simple because it is fully submersible for cleaning. The waterproof microphone attached inside the facemask reduces external noise while transmitting with the option for hands free radio transmission.

Not specified

Stock Number

Respiratory

Protection Type

Equipment Category

SCBA, can be ordered with a 30 min, 45 min, or 60 min cylinder

Availability

Commercial

Current User(s)

Fire fighters, HAZMAT teams, police departments

Manufacturer

International Safety Instruments

922 Hurricane Shoals Road

Lawrenceville, GA 30243

770-962-2552 (Tel)

770-963-2797 (Fax)

Mary McDougald, Marketing Coordinator

Customer Service: 888-ISI-SAFE (Tel)

Domestic and International

Manufacturer Type

Developer

ISI

Source

www.intsafety.com

Certification

NIOSH-approved

Operational Parameters

Chemical Warfare (CW)

None

Agents Protected Against

Biological Warfare (BW)

None

Agents Protected Against

Toxic Industrial Materials

Protection against a variety of TIMs (IDLH atmospheres)

(TIMs) Protected Against

WORKING DRAFT

Duration of Protection 30 min, 45 min, or 60 min emergency escape cylinder

Recommended Use(s) Military, government, and confined space

Physical Parameters

Sizes Available Facemask—small, medium, and large

Weight ~ 20 lb

Package Size and Volume Not specified

Power Requirements 8 AA batteries

Material Type Kevlar harness, and AirSwitch™ facemask made from silicone or neoprene

Construction Type Reverted-edge ensures proper seal

Color Black with gray cylinder

Logistical Parameters

Ease of Use Simple design makes standard service and repair easy for end-user

Consumables Not specified

Maintenance Requirements Simple, low-cost yearly maintenance

Shelf Life Not specified

Transportability Not specified

Operational Limitations Not specified

Environmental Conditions All indoor and outdoor weather

Unit Cost Not specified

Maintenance Cost Not specified

Warranty 15 yr

Don/DoFF Information Video available, simple and easy

Use/Reuse Not specified

Launderability Harness straps easily removable for cleaning. Facemask is fully submersible for easy and complete cleaning.

Accessories Buddy breather attachment, radio interface, PASS option

Special Requirements

Training Requirements Not specified

Training Available Video as well as maintenance training

Manuals Available Yes

Surveillance Testing Requirements Inspect unit prior to use for wear and tear of unit

Support Equipment Supply hose

Testing Information Not specified

Applicable Regulations Not specified

Health Hazards Not specified

Communications Interface Radio interface is adaptable to all radio types

Capability

EOD Compatibility Yes

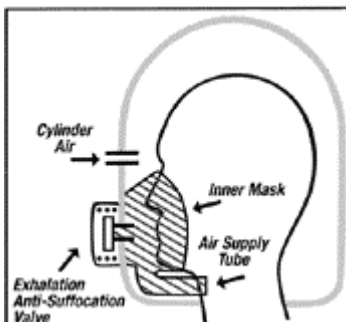
WORKING DRAFT

General

Name

ID# 29

Interspiro Spiroscape Escape BA



Technology

Spiroscape is the first emergency breathing apparatus to overcome the practical limitations of demand (unpredictable duration) and constant flow (CO₂ build up or heavy cylinder weight) type systems. Unique spiroscape air delivery system features an inner mask with exhalation valve and air supply tube. This allows CO₂ to be expelled from the hood optimizing the use of fresh air from the cylinder without the need for a demand valve. This unique constant flow system assures a predictable duration for air delivery. Patented auto hatch/safety valve automatically opens if air supply is exhausted to prevent employee suffocation. Can be used as standby fresh air hatch in staging areas. The auto hatch/safety valve also eliminates the need for a separate low air alarm system.

Stock Number

Spiroscape 10 or 15 min sets: P/N 95300

Auto fill adapter: P/N 95360

(EN or CGA connector and pressure to be specified)

Protection Type

Respiratory

Equipment Category

Escape breathing apparatus (for extreme emergency), constant flow

Availability

Available

Current User(s)

Not specified

Manufacturer

Interspiro Group

500 E. Main St.

Branford, CT. 06405

800-468-7788 (Tel)

203-481-3899 (Tel)

203-483-1879 (Fax)

International

Manufacturer Type

Interspiro

Developer

www.interspiro.de

info@interspiro.com

Kenton D. Warner

203-483-8508 (Tel)

Certification

CE or NIOSH certification, cylinder size, and pressure to be specified

Operational Parameters

Chemical Warfare (CW)

Not specified

Agents Protected Against

Biological Warfare (BW)

Not specified

Agents Protected Against

Toxic Industrial Materials

Not specified

(TIMs) Protected Against

WORKING DRAFT

Duration of Protection	Predictable 10 min or 15 min duration options to cope with unexpected delays due to smoke, vapor clouds, complex escape routes, ladders, stairs, and employee apprehension
Recommended Use(s)	The traditional emergency escape breathing apparatus, is a basic emergency setup to help with evacuation in the unlikely event of a hazardous emergency
<u>Physical Parameters</u>	
Sizes Available	Not applicable
Weight	Compact and lightweight
Package Size and Volume	Compact and lightweight
Power Requirements	Not applicable
Material Type	Rubber inner mask with exhalation valve; polyurethane coated high visibility outer hood; natural latex rubber neck seal, and wire reinforced air hose
Construction Type	Latex rubber neck provides superior fit and protection factors, eliminates draw string enclosures and elastic neck seals that stretch during washing or laundering
Color	Yellow
<u>Logistical Parameters</u>	
Ease of Use	Quick start pull-tab guarantees automatic air activation prior to donning hood. Patented auto hatch/safety valve prevents suffocation when air supply is exhausted.
Consumables	Not specified
Maintenance Requirements	Unique anti-tamper tag verifies units integrity on inspection
Shelf Life	Not specified
Transportability	Light and transportable
Operational Limitations	10 min or 15 min
Environmental Conditions	Not specified
Unit Cost	Not specified
Maintenance Cost	Not specified
Warranty	Not specified
Don/Doff Information	No special instructions
Use/Reuse	Can be reused
Launderability	Can be laundered
Accessories	10 min or 15 min cylinders, wall mount, portable carrying case
<u>Special Requirements</u>	
Training Requirements	Not specified
Training Available	Not specified
Manuals Available	Not specified
Surveillance Testing Requirements	Not specified
Support Equipment	Not specified
Testing Information	Not specified
Applicable Regulations	Not specified
Health Hazards	Unique patented auto hatch/safety valve automatically opens if air supply is exhausted to prevent employee suffocation. Can be used as standby

WORKING DRAFT

Communications Interface

Capability

EOD Compatibility

fresh air hatch in staging areas. The auto hatch/safety valve also eliminates the need for a separate low air alarm system

Not specified

Not specified

WORKING DRAFT

General

Name

Interspiro Respirator

ID# 30

Picture Not Available

Technology

Respirator/Cartridge

Stock Number

Not specified

Protection Type

Respiratory

Equipment Category

Respirator/cartridge

Availability

Not specified

Current User(s)

Not specified

Manufacturer

Interspiro Group
500 E. Main St.
Branford, CT. 06405
Kenton D. Warner
203-483-8508 (Tel)

Manufacturer Type

Domestic

Developer

Not specified

Source

Lifecycle Plan SNL-795, September 30, 1998

Certification

Not specified

Operational Parameters

Chemical Warfare (CW)

Not specified

Agents Protected Against

Biological Warfare (BW)

Not specified

Agents Protected Against

Toxic Industrial Materials

Not specified

(TIMs) Protected Against

Duration of Protection

Not specified

Recommended Use(s)

Not specified

Physical Parameters

Sizes Available

Not specified

Weight

Not specified

Package Size and Volume

Not specified

Power Requirements

Not specified

Material Type

Not specified

Construction Type

Not specified

Color

Not specified

Logistical Parameters

Ease of Use

Not specified

Consumables

C2A1

Maintenance Requirements

Not specified

Shelf Life

Not specified

Transportability

Not specified

Operational Limitations

Not specified

Environmental Conditions

Not specified

Unit Cost

Not specified

WORKING DRAFT

Maintenance Cost	Not specified
Warranty	Not specified
Don/Doff Information	Not specified
Use/Reuse	Not specified
Launderability	Not specified
Accessories	Not specified

Special Requirements

Training Requirements	Not specified
Training Available	Not specified
Manuals Available	Not specified
Surveillance Testing Requirements	Not specified
Support Equipment	Not specified
Testing Information	Not specified
Applicable Regulations	Not specified
Health Hazards	Not specified
Communications Interface Capability	Not specified
EOD Compatibility	Not specified

WORKING DRAFT

General

Name

C4 Gas Mask

ID# 31

Picture Not Available

Technology

Respirator

Stock Number

Black: 4240-21-908-1095

Green: 4240-21-908-1096

Tan: Available upon request

Protection Type

Respiratory

Equipment Category

Gas mask, respirator

Availability

Commercially available; immediate (green in production) black to special order

Current User(s)

Canadian Department of National Defense, Contact: DSSPM 2-8 (Royal Canadian Mounted Police and Denmark)

Manufacturer

Irvin Aerospace Canada Ltd.

P.O. Box 280

479 Central Avenue

Fort Erie, Ontario L2A 5M9

POC: Doug Eaton

905-871-6510 (Tel)

905-871-6534 (Fax)

marketing@irvinacanada.com

Manufacturer Type

Foreign

Developer

Canadian Department of National Defense

Source

Irvin Aerospace Canada Ltd.

Rick Kosierb, MEng, CD

NBC Program Manager

Canadian Department of National Defense

Certification

Operational Parameters

Chemical Warfare (CW)

All known military chemical agents

Agents Protected Against

Biological Warfare (BW)

All known military biological agents

Agents Protected Against

Toxic Industrial Materials

Under study

(TIMs) Protected Against

Duration of Protection

24 h (in most cases)

Recommended Use(s)

Not specified

Physical Parameters

Sizes Available

XS, S, M, and L

Weight

16 oz without canister

Package Size and Volume

6 in x 8 in x 11 in

Power Requirements

Not applicable

Material Type

Bromobutyl rubber (impermeable)

Construction Type

Molded rubber

Color

Olive drab, optional black, and tan available upon request

WORKING DRAFT

Logistical Parameters

Ease of Use	Fast donning compatible with full protective gear
Consumables	Canister
Maintenance Requirements	Routine preventative maintenance
Shelf Life	10 yr minimum
Transportability	Fully transportable
Operational Limitations	Full military qualification
Environmental Conditions	All common military environmental conditions
Unit Cost	Volume dependent
Maintenance Cost	Not applicable
Warranty	1 yr
Don/Doff Information	None required
Use/Reuse	Can be reused
Launderability	Laundering: clean in water Decon: operator dependent
Accessories	Canister, carrier bag and communications, and gas mask cleaning system

Special Requirements

Training Requirements	1 h of training is required
Training Available	Operator and training course are available
Manuals Available	User, maintenance manual, and repair manual
Surveillance Testing Requirements	Routing leak testing is required
Support Equipment	None
Testing Information	Available from Irvin Aerospace Canada Ltd.
Applicable Regulations	None
Health Hazards	Used canister disposable as required
Communications Interface Capability	Not specified
EOD Compatibility	Not specified

WORKING DRAFT

General

Name

Litpac II-Rebreather

ID# 32

Picture Not Available

Technology

The LITPAC II is a closed circuit, 2 h, positive pressure self-contained breathing apparatus (SCBA). The unit can be worn in a Level A suit when circumstances dictate. Uses 38 % oxygen rather than more hazardous 100 % high-pressure oxygen. Inhalation temperatures are cooler than most other closed-circuit SCBAs.

Stock Number

4240-014526754

Protection Type

Respiratory

Equipment Category

SCBA, closed-circuit positive pressure

Availability

Commercially available since 1992

Current User(s)

- Contact: MGST Donald Holman
MARCORSSYSCOM Marine/NBC Program Management Office
2033 Barnett Ave.
Suite 315
Quantico, VA 22134-5010
703-784-5898 (Tel)
- Contact: Consequence Management Program Integration Office Dept.
of Army
Director of Military Support
Attn: DAMO-ODC
400 Army Pentagon
Washington, D.C. 20310-0400
703-693-8983 (Tel)
- Contact: Captain Proctor
City of St. Louis
Fire Dept. Headquarters
1421 N. Jefferson
St. Louis, MO 63106
314-533-1681 (Tel)
- Contact: Leonard Jufko
Northeast Ohio Regional Sewer District
4747 E. 49th Street
Cleveland, OH 44125-1011
216-641-6000 (Tel)
- Contact: Patricia Levenzon
Impomak (for Minera Mechilla—Luis Andreani, Chief of Mining
Operations)
Emiliano Figueroa 839
Santiago, Chili
56-2-635-3188 (Tel)

Manufacturer

Litton Life Support
2734 Hickory Grove Road
P.O. Box 4508
Davenport, IA 52804
Contact: Dean Cantrill, Dir. of Commercial Products
319-383-6000 (Tel)
319-383-6125 (Fax)

Manufacturer Type

Domestic

WORKING DRAFT

Developer

Litton Life Support originally designed the LITPAC II to meet an Air Force requirement for a complete chemical and biological protection ensemble suitable for fire fighting. The original requirement was for 10000 SCBA with special design requirements for duration, profile, weight and breathing performance. Ten prototypes were built and sold to the Air Force for operational testing and evaluation. After assessing the results of the Air Force and in-house testing, many ergonomic improvements were incorporated into the unit. DOD funding for the LITPAC was canceled, but Litton Life Support decided to complete the development of the LITPAC II and to address the needs of this identified niche market. Litton Life Support: www.littonls.com

Source

Certification

NIOSH/MSHA-approved, #TC-13F-233 for use in high radiant heat and open flame environments

Operational Parameters

Chemical Warfare (CW)

The unit can be worn in a Level A suit when circumstances dictate

Agents Protected Against

The unit can be worn in a Level A suit when circumstances dictate

Biological Warfare (BW)

Agents Protected Against

The unit can be worn in a Level A suit when circumstances dictate

Toxic Industrial Materials

(TIMs) Protected Against

Duration of Protection

The LITPAC II is NIOSH rated as a 2 h device. The unit is designed to allow for rapid servicing with quick disconnects at all major attachment points. The soda lime and high pressure manifold assembly can be easily removed and replaced in the field if extended duration is required.

Recommended Use(s)

Not specified

Physical Parameters

Sizes Available

One size with adjustable straps on the head harness and shoulder harness

Weight

Slimline (just 4-3/8 in thick) and lightweight (30 lb)

Package Size and Volume

Slimline (just 4-3/8 in thick) and lightweight (30 lb)

Power Requirements

None

Material Type

Backpack housing—flame-retardant vinyl ester sheet molding compound

Harnesses—Nomex, Kevlar, and flame-retardant polyurethane foam

Buckles—(Item 1000-7101) polyetherimide resin

Mask—silicone

Mask adapter—polyphenylene sulfide

Hoses—silicone

Construction Type

High pressure cylinder and rebreather mechanism enclosed in an unsealed case

Color

Safety yellow

Logistical Parameters

Ease of Use

The unit is compatible with all Level A and B response equipment (PPE), incorporates padded harnesses and flexible hoses, and has an “on demand” regulator allowing for easy breathing. The thickness of the unit is approximately 4-3/8 in and will allow a user to drive an unmodified truck, work in confined spaces or pass-through a standard manhole cover while wearing the unit. It provides freedom of motion in almost any situation and rides comfortably with the center of gravity within 1 in of geometric center of the unit. All control features are located for easy reach and manipulation.

WORKING DRAFT

Consumables

The soda lime and gas are consumed during operation. CO₂ scrubber and filters—(case of 12). Soda lime refill required after each complete 2 h usage of LITPAC II. O-Ring replacement as recommended by Maintenance Manuals. CO₂ scrubber (soda lime), O-Rings and filters—(case of 12). Soda lime refill required after each complete 2 h usage of LITPAC II. O-Ring replacement as recommended by maintenance manuals. The spare soda lime canister assembly (includes soda lime).

Maintenance Requirements

Level I—operator cleans, refills and leak checks after each use.
Level 1 Maintenance Test Kit needed for pre and post usage of the LITPAC unit.
Level II—annual diagnostic check.

Shelf Life

Shelf life of unit is indefinite
Shelf life of components: bags—5 yr, pressure vessels—15 yr
Shelf life of consumables: soda lime—2 yr, average

Transportability

The optional suitcase for the rebreather weighs 13.5 lb and can be hand carried. The quick-turn kit, including the suitcase, weighs 20 lb and can also be hand carried. The spare soda lime canister assembly, boxed, is 12 in x 7 in x 6 in and it weighs about 5 lb.

Operational Limitations

The unit has been fielded by the USMC CBIRF; the LITPAC II will function in weather conditions above -25 °F. It meets the NIOSH requirements for high-radiant heat and open flame environments. Inhalation temperatures cooler than most other closed-circuit SCBA's.

Environmental Conditions

The LITPAC II will function in weather conditions above -25 °F. It meets the NIOSH requirements for high-radiant heat and open flame environments.

Unit Cost

LITPAC II: \$6.4K
Carrying case: \$246
Quick-turn kit: \$3K
Case of soda lime: \$429
Soda lime canister: \$114

Maintenance Cost

Maintenance on the LITPAC II is user performed. The Level 1 tester is \$639 and the Level 2 tester is \$7.9K

Warranty

Litton Life Support's standard terms and conditions include a 1 yr limited warranty

Don/Doff Information

No assistance is required.

Use/Reuse

The unit is reused; the soda lime is disposable

Launderability

Internal cleaning by user is a normal part of operations. It can be deconned as needed.

Accessories

No accessories are required for operational use. SCBA carrying case (recommended for storage and transportation). The spare pressure vessel assembly (complete with pressure vessel bag and carrying case). The spare soda lime canister assembly (includes soda lime). A manual is supplied with each unit.

Special Requirements

Training Requirements

1 h use instruction
5 h operations instruction (Level I)
20 h maintenance instruction (Level II)

Training Available

Level I and Level II training is available from Litton Life Support

Manuals Available

Instructions and Level I maintenance manual
Level II maintenance manual

WORKING DRAFT

Surveillance Testing

Level I maintenance with Level I test kit

Requirements

Support Equipment

No additional equipment is required to operate the primary unit; however, the user should establish a source for 38.5 % oxygen gas

Testing Information

NIOSH certification testing, and NIOSH comparative testing

Applicable Regulations

DOT regulations apply for transporting LITPAC II with full cylinders

Health Hazards

Not applicable as the expired soda lime is classified as a nonhazardous waste. An MSDS is available for the soda lime.

Communications Interface

Not specified

Capability

EOD Compatibility

Not specified

WORKING DRAFT

General

Name

ID# 33

Easiflow Plus Full Facemask Respirator and Filters



Technology

Negative pressure respirator; can be used in conjunction with Magnum P3 powered respiratory systems or fresh-air supply equipment. A lightweight, negative pressure full facemask designed for use in areas of toxic gases or highly toxic particles. Made from high quality silicone, the mask provides a high nominal protection factor of up to 2000 (dependent on filter used) due to the excellent seal around the face.

Stock Number

Not specified

Protection Type

Respiratory

Equipment Category

Respirator and negative pressure

Availability

Not specified

Current User(s)

Not specified

Manufacturer

Martindale Centurion Safety Products Ltd.
Howlett Way
Thetford, Norfolk, IP24 1HZ
England
+44 (0)1842 754266 (Tel)
+44 (0)1842 765590 (Fax)

Manufacturer Type

Foreign

Developer

Martindale Centurion Safety Products Ltd.

Source

Martindale Centurion Safety
www.centurionsafety.co.uk
sales@centurionsafety.co.uk
MPS Mine and Process Service Inc.
Box 484
Kewanee, IL 61443
309-852-6529 (Tel)
309-854-5206 (Fax)
CE certified by B.S.I. to EN136

Certification

Operational Parameters

Chemical Warfare (CW)

Not applicable

Agents Protected Against

Biological Warfare (BW)

Not applicable

Agents Protected Against

Toxic Industrial Materials

Will protect against TIMs of toxic dust when fitted with P3 filter

(TIMs) Protected Against

Duration of Protection

Up to 2 h

Recommended Use(s)

Not specified

WORKING DRAFT

Physical Parameters

Sizes Available	Not specified
Weight	Not specified
Package Size and Volume	Not specified
Power Requirements	Not specified
Material Type	Not specified
Construction Type	Not specified
Color	Not specified

Logistical Parameters

Ease of Use	Easily manageable, able to be worn for long periods with no effects
Consumables	Not specified
Maintenance Requirements	Not specified
Shelf Life	Not specified
Transportability	Not specified
Operational Limitations	Not limiting, has 75 % to 90 % visibility
Environmental Conditions	Protects in normal environments
Unit Cost	Less than or equal to \$500 per unit
Maintenance Cost	Not specified
Warranty	Not specified
Don/Doff Information	Not specified
Use/Reuse	Able to be cleaned and reused greater than 50 times
Laundryability	Not specified
Accessories	Not specified

Special Requirements

Training Requirements	Little to no training required
Training Available	Not specified
Manuals Available	Not specified
Surveillance Testing Requirements	Not specified
Support Equipment	Not specified
Testing Information	Not specified
Applicable Regulations	Not specified
Health Hazards	Not specified
Communications Interface Capability	Not specified
EOD Compatibility	Not specified